

Federation of Earth Science Information Partners Partnership Application

Please complete all sections to the fullest extent possible and forward completed application to: Carol Meyer, carol.meyer@earthsciencefoundation.org. If you have any questions, please contact her at 877.870.3747.

I. CONTACT INFORMATION

A. Primary Contact/Principal Investigator

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B. Designated Assembly Representative (could be same as above)

Name: Same as above.
Address:
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C. Other Contacts

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II. ABOUT YOUR ORGANIZATION

- A. ORGANIZATION/DIVISION/PROJECT NAME: DataONE (Data Observation Network for Earth)
- B. OVERVIEW OF YOUR PRIMARY ACTIVITIES in regards to the Earth Sciences Community (200 words or less)

DataONE is designed to be the foundation of new innovative environmental research that addresses questions of relevance to science and society. DataONE will ensure preservation and access to multi-scale, multi-discipline, and multi-national data. Operationally, DataONE encompasses a distributed global network of Member Nodes (i.e., data repositories) that provide open and persistent access to well-described and easily discovered Earth observational data. In addition, a smaller number of Coordinating Nodes (i.e., metadata repositories and service centers) support network-wide services such as data replication and access to an array of enabling tools.

DataONE's objectives are to: make biological data available from the genome to the ecosystem; make environmental data available from atmospheric, ecological, hydrological, and oceanographic sources; provide secure and long-term preservation and access; and engage scientists, land-managers, policy makers, students, educators, and the public through logical access and intuitive visualizations. The foundation of DataONE is the established collaboration among: existing archive initiatives, libraries, environmental observing systems and research networks, data and information management, science synthesis centers, and professional societies. DataONE is a means to serve a broad range of science domains directly and indirectly through interoperability with partnering networks.

- C. Please list and briefly describe the primary product(s) or service(s) that your organization provides (will provide) to the Earth Sciences community.

DataONE is being designed to provide access to biological, ecological and environmental data, metadata and tools that are relevant to the Earth Sciences community. DataONE engages its community of partners through working groups focused on identifying, describing, and implementing the DataONE cyberinfrastructure, governance, and sustainability models. These working groups, which consist of a diverse group of graduate students, educators, government and industry representatives, and leading computer, information, and library scientists: (1) perform computer science, informatics, and social science research related to all stages of the data life cycle; (2) develop DataONE interfaces and prototypes; (3) adopt/adapt/recommend interoperability standards; (4) create value-added technologies (e.g., semantic mediation, scientific workflow, and visualization) that facilitate data integration, analysis, and understanding; (5) address socio-cultural barriers to sustainable data preservation and data sharing; and (6) educate and promote the adoption of best practices for managing the full data life cycle.

- D. Please give a main website address for the proposed Partnership:

Web Address: Dataone.org

III. HOW YOUR ORGANIZATION WILL BENEFIT FROM/CONTRIBUTE TO THE EARTH SCIENCE INFORMATION PARTNERS (ESIP) FEDERATION

- A. Describe current or anticipated users of your products and services and how you think the Federation can help you better serve this population. (200 words or less)

Current and anticipated DataONE users include data centers, environmental/earth research and observation networks, individual and groups of scientists, students and educators, and the public. These users will require/desire high quality and well-documented data that can be easily acquired, integrated, and understood using the best available tools and practices. DataONE's participation in the Federation can better ensure that DataONE adopts data, metadata, and interoperability standards and solutions that meet the needs of the broadest possible community of Earth Science stakeholders. The Federation provides an enormous opportunity to leverage DataONE research and development activities—learning from related ongoing activities by member institutions, sharing solutions and tools across domains/disciplines, and providing access to the large universe of earth science information professionals. In addition, the Federation provides significant expertise with respect to community engagement and outreach—an area where there are numerous opportunities for DataONE to learn, collaborate, and contribute.

- B. Describe any Earth science technologies that you have developed and are willing to bring to the Federation's efforts to provide best-practices. (200 words or less)

DataONE has completed prototype development of a Mercury-powered web portal that supports easy discovery and access to approximately 100,000 data products (at present). In addition, substantive effort has focused on developing two databases that promote use and discovery of best practices and tools that cover all aspects of the data life cycle. DataONE and its partners (some of which already belong to ESIP) are interesting in sharing these databases and interoperability solutions and continuing to broaden and deepen the tools and best practices databases so that a much broader array of scientists and students can be served in the future. DataONE is poised to support workshops over the next two-three years whereby subject experts from ESIP are brought together to create and describe best practices and tools that meet the evolving needs of scientists and students.

- C. Describe how your proposed membership would contribute to the efforts and the mission of one or more standing committees, working groups and/or clusters. See Page 3 for descriptions of the different activities of the various standing committees, working groups, and clusters. (200 words or less)

DataONE comprises numerous institutions and domains (information and computer scientists, environmental scientists, educators) that can contribute as follows:

(1) *Education*: DataONE Community Engagement and Education Working Group will share curricula, best practices (e.g., our existing and evolving database), and training materials and online programs with the Federation.

(2) *Information Technology and Interoperability*: DataONE Core CI Team and others will have significant engagement in and will contribute complementary approaches to interoperability that include a biological/environmental perspective.

(3) *Products and Services*: DataONE brings significant interest in and expertise with respect to developing and promoting best practices for an array of scientists, citizens (via eBird and the USA National Phenology Network), and students.

With respect to Federation clusters, DataONE shares significant overlap in interests and will contribute to the DataONE Core CI Team is developing web services solutions for providing access to data across an array of diverse data centers. We are especially interested in contributing to a foundational observation data model and developing ontologies and semantic mediation tools that more readily enable data discovery, integration and synthesis. DataONE working groups include data scientists and digital librarians that are interested in contributing to new approaches, standards, and best practices for data preservation and stewardship. Finally, DataONE stakeholders include environmental and information scientists that focus on Water and Air Quality issues (e.g., CUAHSI Hydrologic Information System).

- D. Describe your own use of Earth science information and data and how you would see this use enhanced by your partnership in the Federation. (200 words or less)

DataONE's chief role is as a service provider—enabling discovery, access, integration and synthesis of biological, ecological, and environmental data to address scientific questions and to support decision-making. Consequently, DataONE will benefit from collaboration and coordination with the Federation in developing and promoting interoperability solutions so that the communities served by the Federation and DataONE can more readily discover, access, and use data and information related to Earth and life on it. We envision many opportunities to contribute to the development of shared ontologies and semantic mediation tools, as well as definition and promotion of community standards, best practices, and education materials. In joining the Federation, DataONE will learn of tools, approaches, and standards that can be promoted to the biological, ecological, and environmental sciences. Likewise, Federation members will gain exposure to the tools and approaches used by DataONE. Ultimately, DataONE will be enriched by being a member of the Federation and will be better positioned to contribute to addressing grand science challenges that extend from the genome to the biosphere.

IV. YOUR CHOICE OF MEMBERSHIP TYPE. PLEASE PICK ONE.

ESIP-I (primarily a data center/archive) ☒

ESIP-II (primarily a research center) ☐

ESIP-III (primarily applications and education) ☐

ESIP-IV (primarily a sponsoring member) ☐

V. Any other comments about your proposed membership and its relation to the Federation that you wish to provide.

Membership in the Federation provides DataONE a tremendous opportunity to formalize a series of informal relationships that we have developed and wish to further evolve with other Foundation members. Given that Federal funding for meeting earth and environmental science data and information needs has been and will continue to be inadequate for the foreseeable future, it is important that the key stakeholders share information, leverage resources, and speak with a common voice. DataONE hopes to become a valuable and long-standing contributor to and beneficiary of Foundation membership.

Other key initial partners (PIs and Co-Investigators) in DataONE:

DataONE DataONE Co-Principal Investigators

- William Michener, University of New Mexico (UNM)
- Robert Cook, Oak Ridge National Laboratory
- Mike Frame, Center for Biological Informatics, U.S. Geological Survey
- Stephanie Hampton, National Center for Ecological Analysis and Synthesis, University of California-Santa Barbara
- Todd Vision, National Evolutionary Synthesis Center, Duke University

DataONE DataONE Co-Investigators (Co-Is participate in and lead Working Groups comprised of 8-12 individuals that address CI and Community Engagement and Education challenges)

- Suzie Allard, University of Tennessee
- Paul Allen, Cornell University
- Peter Buneman, University of Edinburgh
- Randy Butler, University of Illinois at Urbana-Champaign
- John Cobb, ORNL
- Patricia Cruse, California Digital Library
- Ewa Deelman, University of Southern California
- David DeRoure, University of Southampton

- Cliff Duke, Ecological Society of America
- Carole Goble, University of Manchester
- Donald Hobern, Commonwealth Scientific and Industrial Research Organization, Australia
- Peter Honeyman, University of Michigan
- Jeffery Horsburgh, Utah State University
- Vivian Hutchison, U.S. Geological Survey
- Matthew Jones, National Center for Ecological Analysis and Synthesis
- Steve Kelling, Cornell University
- John Kunze, California Digital Library
- Bertram Ludaescher, University of California-Davis
- Maribeth Manoff, University of Tennessee
- Line Pouchard, Oak Ridge National Laboratory
- Robert Sandusky, University of Illinois-Chicago
- Ryan Scherle, National Evolutionary Synthesis Center
- Mark Servilla, University of New Mexico
- Carol Tenopir, University of Tennessee
- Dave Viegla, University of Kansas
- Jake Weltzin, U.S. Geological Survey
- Bruce Wilson, University of Tennessee, and Oak Ridge National Lab

Thank you for your application for partnership in the ESIP Federation.

List of Federation Committees and Clusters

Administrative Committees

Executive Committee: Comprised of all standing and administrative committee chairs, ESIP Type Representatives, the President and Vice President of the Federation. Oversight body for most day-to-day activities of the Federation, acts on behalf of the Assembly between meetings.

Constitution and Bylaws: Provides counsel on matters related to the constitution and bylaws and other related issues (e.g. amendments to government documents)

Finance and Appropriations: Oversees financial resources of the Federation, including the annual budgeting process.

Partnership: Reviews and processes all applications for membership before making applications available for review by members of the Federation. Deals with other membership-related issues.

Standing Committees:

Commercial Development: Promotes a forum wherein commercial development of Earth science information can be fostered. (inactive)

Community Engagement: Provides a forum for the Federation to promote partner products and to engage new users for data products and services. (inactive)

Education: Provides a forum to make accessible to educators and learners at all levels in both formal and informal educational contexts the Earth science data, information, tools, and curricula available within the ESIP Federation.

Information Technology and Interoperability: Provides a forum for discussing information technology and interoperability issues of the Earth science community and serves as a central point for activities in this realm.

Products and Services: Provides a forum for defining best practices and defining requirements for earth science products and services. Currently is involved in developing an inventory of partner products and services.

Clusters (presently active, April 2009):

Web Services
Semantic Web
Data Preservation and Stewardship
Decisions
Air Quality
Federated Search
Water